UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/723,291	11/26/2003	James R. Rosseau	GP-303187	5563

7590   10/13/2006

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ART UNIT	PAPER NUMBER
3661	

DATE MAILED: 10/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Application Number: 10/723,291
Filing Date: November 26, 2003
Appellant(s): ROSSEAU, JAMES R.

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GROUP 3600

Christopher DeVries
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed August 1, 2006 appealing from the Office action

mailed March 8, 2006.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

5,591,906	Okawa et al	1-1997
5,569,848	Sharp	10-1996

| 6,237,234 | Jackson et al | 5-2001 |

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okawa et al

(US 5,591,906) in view of Sharp (US 5,569,848) and Jackson et al (US 6,237,234).

As per claim 1-3, Okawa teaches a system of determining tire pressure faults in a vehicle,

the system comprises: determining the number of tire revolution of a first and second tire (col.4,

lines 10-11); comparing the number of revolutions of the first and second tire using the ratio

between the tires to determine if pressure fault has occurred (col.4, lines 10-26). Okawa does not

suggest using distance value for the comparison. However, Okawa teaches using rotational

angular velocity value (col.4, lines 10-11), further since Sharp teaches that it is well known to

determine distance from the rotation angular speed using an odometer, and there is a close

relation between the rotation angular speed and distance (col.4, lines 18-61), and Jackson

teaches specific relationship between distance travel and the angular speed (col.4, lines 55-59), it

would have been obvious to a person of ordinary skill in the art at the time the invention was

made to use the distance determined from the wheel rotational speed taught by Sharp and

Jackson to determine the tire pressure abnormality of Okawa in order to use the same output

distance determined from the odometer to check for the pressure fault of the wheels, since

utilizing the distance determined from the number of pulses output from a sensor in a fixed

amount of time, or utilizing the number of pulses outputted from the speed sensor as preferred by the designer requires only routine skill in the art.

As per claim 4-6, refer to claims 1-3 above.

As per claim 7, Okawa teaches coupling the sensors to an ABS system (col.3, lines 63-67).

As per claim 8, Okawa teaches determining tire pressure fault by analyzing a ratio of wheel speed traveled by at least two wheels (col.17, lines 16-22). Concerning using distances instead of wheel speed, refer to claim 1 above.

As per claim 9-10, Okawa teaches a conventional method of detecting tire pressure by direct measurement of the pressure of the tire using pressure sensor (col.1, lines 22-28), when the method for direct measuring the pressure of the tire is used, the speed, and the time are just independent factors from determining a tire pressure.

(10) Response to Argument

Issue 1: In page 6, last paragraph, the appellant asserts that:

(1)   the cited references of Okawa, Sharp and Jackson are all silent with respect to using the distance a tire has travel to determine pressure fault; and

(2)   the fundamental difference between distance and speed is the additional factor of time, and due to the nature of the speed calculation they are prone to noisy data and microprocessor timing limitations, and

> (3)   the present application is based on the distance and is not dependent on
>
>   time,
>
> (4)   then the appellant concludes that the examiner is practicing hindsight
>
>   reconstruction.

The following is the examiner answer:

Response 1:

> (1)   Although the cited references does not explicitly disclose using the
>
>   distance a tire have travel to determine pressure fault, although Okawa
>
>   teaches using the wheel speed to determine the pressure fault (col.4, lines
>
>   10-26; col.11, lines 30-44), in col.3, lines 21-25, Okawa teaches the
>
>   relationship between the pressure of the tire and the distance travel.
>
>   Sharp, in the same context, clearly teaches that *the pressure fault tire*
>
>   *travels smaller distance than the properly inflated tire* (Sharp reference in
>
>   col.4, lines 4-22), and Jackson also teaches a formula stating the
>
>   relationship between the distance travel and the radius of the tire (col.4,
>
>   lines 30-32, and lines 53-66), an ordinary person skilled in the art at the
>
>   time the invention was made would be able to use the distance travel of a
>
>   tire to determine pressure status of the tire as disclosed by Sharp in col.4,
>
>   lines 4-22, the distance a tire travels can be determined by using the time
>
>   factor as admitted by the appellant as being well known, and applying the
>
>   relationship between the distance travel and the radius of one revolution

taught by Jackson to determine the distance travel of the tire in one

revolution as taught by Jackson, and by using the result taught by Jackson

col.4, lines 30-32, lines 56-66 in combination with the number of

revolution of the tire per unit of time (the speed of the tire) taught by

Okawa in determining the distance a tire has travel. Therefore the formula

for determine pressure fault taught by Okawa in col.4, line 15 using the

speed variable can be easily replaced with the distance variable using the

teaching and motivation from both Sharp and Jackson as explained above.

(2)   In response to the appellant assertion that the difference between distance

and speed is the additional factor of time, and due to the nature of these

speed calculations they are prone to noisy data and the microprocessor

timing limitations. *It is noted that the very broad independent claims do*

not disclose how the present application obtain the distance data to avoid

using the time factor and to eliminate noise data and to overcome the

microprocessor limitation. It appears that the present application uses

digital pulse devices and count the number of pulses which represent

distance of travel of the tire in a small unit amount of time to determine

the distance (last paragraph of page 3 of the appeal brief). *When the*

number of pulses are obtained, it is necessary to use the time factor to

determine the distance in that time duration, the independent claims do

not disclose how the distance is obtained without using the time factor. It

is also notice that Okawa also uses the digital pulse devices to count the number of pulses which represents the distance of travel of the tire in a small unit of time (Okawa col.4, lines 52-56).

(3) The appellant asserts that the present application uses distance travel and is not dependent on time, however *the very broadly claimed independent claims do not explicitly teach excluding the time factor and do not teach how the distance is obtained without using the time factor*. Claims 1, 4 and 6 do not teach how the distance is determined so that the time factor is excluded, how the noise data is eliminated and how the limitation of the microprocessor is overcome.

(4) For the reason explained in section (1) and (2) above, the reconstruction asserted by the examiner is well within the common knowledge of a person skilled in the arts in view of Okawa, Sharp and Jackson's teachings. It must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Issue 2:   the appellant asserts that Okawa and Sharp teach away from the present application because they disclose a speed based and not distance based tire pressure fault system. The following is the examiner's answer:

Response 2: Okawa does not teach away from the present application as asserted. At least Okawa teaches the relationship between the rolling radius and the distance travel and teaches using the rolling radius in detecting pressure fault (col.3, lines 21-25, lines 50-53) and Jackson also teaches the relationship between the rolling radius and the distance travel (col.4, lines 30-32, and lines 55-66), when the rolling radius is known, the distance travel can be determined and vice versa, and *Sharp clearly teaches that the distance traveled of the tire with pressure fault is less than the distance traveled of the tire with proper pressure* (Sharp col.4, lines 7-15, and lines 19-24), therefore in view of Sharp teaching the pressure fault of a tire can be detected using the distance data. Therefore at least Sharp does not teach away the present application as asserted.

Issue 3:   the appellant requests a form of affidavit that the examiner relies on personal knowledge that the apparatus of the present application is obvious. The following is the examiner's response:

Response 3: the examiner does not believe such the affidavit is necessary because the combined references taught is Okawa, Jackson, and especially Sharp in col.4,

lines 7-23 clearly suggests that the distance traveled of a tire can be used in

determining the pressure fault of a tire.

Issue 4:   concerning the limitations on claims 1, 4, 6, 9-10, the following is the

examiner's comment:

Response 4: refer to the response in issue 1 and 2 above. Although claim 9-10 negate the

use of speed and the time, the broad claims 6 and 9 or 10 do not disclose how

the present application determine the distance without using the speed and

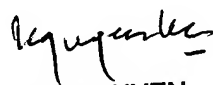the time factor. Refer to discussion in the response 1 above.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related

Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

October 4, 2006

THU V. NGUYEN
PRIMARY EXAMINER

Conferees:

Thomas Black

Cuong Nguyen